

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA**

MICHAEL MACALUSO
122 Slaymaker Road
Mildford, PA 18337

Plaintiff,

v.

APPLE INC.
1 Infinite Loop
MS:38-3TX
Cupertino, CA 95014

Defendant.

CASE NO.: 2:21-cv-01361-GEKP

**APPLE INC.'S MEMORANDUM IN SUPPORT OF MOTION TO EXCLUDE
TESTIMONY OF DAVID KLITSCH AND MICHAEL ESKRA**

TABLE OF CONTENTS

	Page
I. Introduction.....	1
II. Background.....	2
A. Factual Background	2
B. Procedural Background	5
III. Argument	5
A. Legal Standard And Burden Of Proof	5
B. The Court Should Exclude Mr. Klitsch’s Opinions As Untimely And Because They Fail To Meet The Standard For Admissibility Under Rule 702.	7
1. Mr. Klitsch’s opinions were not timely disclosed.	8
2. Mr. Klitsch’s untimely opinions are not reliable.	10
a. Mr. Klitsch failed to follow NFPA 921 in rendering his opinion as to the fire’s area of origin.	10
b. Mr. Klitsch’s opinions are not based upon reliable methodology.	13
i. Mr. Klitsch’s opinion that the subject iPad is a competent ignition source is contrary to the evidence.	13
ii. Mr. Klitsch’s opinion that the burner control was turned on during and as a result of the fire is not based on sufficient facts or data.	15
3. Mr. Klitsch’s untimely opinions do not fit the facts of this case.	16
C. The Court Should Exclude Mr. Eskra’s Opinions Because He Is Not Qualified, His Opinions Are Unreliable, And They Do Not Fit The Facts Of This Case.	18
1. Mr. Eskra is not qualified to opine on the subject iPad’s battery management system.	18
2. Mr. Eskra’s opinions as to causation are unreliable.	19
a. Mr. Eskra’s opinions are the result of confirmation bias.	19
b. Mr. Eskra’s methodology in opining that the subject iPad suffered a short circuit is not generally accepted.	22
c. Mr. Eskra’s opinion as to the cause of the alleged internal short in the subject iPad is unreliable and based on speculation.	26

TABLE OF CONTENTS
(continued)

	Page
3. Mr. Eskra’s testing of different iPad models is not substantially similar in fact or process to the facts of this case.	29
IV. Conclusion	32

TABLE OF AUTHORITIES

	Page(s)
Cases	
<i>Aloe Coal Co. v. Clark Equip. Co.</i> , 816 F.2d 110 (3d Cir. 1987).....	19
<i>Bado-Santana v. Ford Motor Co.</i> , 482 F. Supp. 2d 197 (D.P.R. 2007).....	31
<i>Balu v. Cincinnati Ins. Co.</i> , No. CV 19-3604, 2021 U.S. Dist. LEXIS 72492 (E.D. Pa. Apr. 15, 2021)	19
<i>Bolt v. Ford Motor Co.</i> , No. 1:16-cv-00447-SGC, 2019 U.S. Dist. LEXIS 44678 (N.D. Ala. Mar. 19, 2019).....	28
<i>Calhoun v. Yamaha Motor Corp., USA</i> , 350 F.3d 316 (3d Cir. 2003).....	6, 19, 25, 31
<i>Cartwright v. Home Depot U.S.A., Inc.</i> , 936 F. Supp. 900 (M.D. Fla. 1996).....	25
<i>Chester Valley Coach Works v. Fisher-Price, Inc.</i> , No. 99 CV 4197, 2001 U.S. Dist. LEXIS 15902 (E.D. Pa. Aug. 29, 2001).....	10, 14, 20, 21, 25
<i>Connearney v. Main Line Hosps., Inc.</i> , No. 15-02730, 2016 U.S. Dist. LEXIS 153143 (E.D. Pa. Nov. 4, 2016)	16
<i>Cutter v. Ethicon, Inc.</i> , No. 5:19-443-DCR, 2020 U.S. Dist. LEXIS 74790 (E.D. Ky. Apr. 29, 2020)	31
<i>Daniels v. Grand Lux Café, LLC</i> , No. 12-7848, 2015 U.S. Dist. LEXIS 38346 (D.N.J. Mar. 26, 2015).....	19
<i>Daubert v. Merrill Dow Pharmaceuticals, Inc.</i> , 509 U.S. 579 (1993).....	2, 6, 7, 10, 13, 16, 25, 31, 32
<i>Daubert v. Merrill Dow Pharms., Inc.</i> , 43 F.3d 1311 (9th Cir. 1995)	7
<i>Elcock v. Kmart Corp.</i> , 233 F.3d 734 (3d Cir. 2000).....	7
<i>Fireman’s Fund Ins. Co. v. Canon U.S.A., Inc.</i> , 394 F.3d 1054 (8th Cir. 2005)	10, 11

<i>Hook v. Whiting Door Mfg. Corp.</i> , No. 3:15-281, 2019 U.S. Dist. LEXIS 23807 (W.D. Pa. Feb. 14, 2019).....	24, 25
<i>Kuhar v. Petzl Co.</i> , No. 16-0395 (JBS/JS), 2018 U.S. Dist. LEXIS 205437 (D.N.J. Nov. 27, 2018)	29
<i>Leon v. FedEx Ground Package Sys.</i> , No. CIV 13-1005	9
<i>Meadows v. Anchor Longwall & Rebuild, Inc.</i> , 306 F. App’x 781 (3d Cir. 2009)	31
<i>Mfg. Res. Int’l, Inc. v. Civiq Smartscapes, LLC</i> , No. 17-269-RGA, 2019 U.S. Dist. LEXIS 149994 (D. Del. Sept. 4, 2019)	17
<i>Murray v. Marina Dist. Dev. Co.</i> , 311 F. App’x 521 (3d Cir. 2008)	7
<i>Oddi v. Ford Motor Co.</i> , 234 F.3d 136 (3d Cir. 2000).....	14
<i>In re Paoli R.R. Yard PCB Litig.</i> , 35 F.3d 717 (3d Cir. 1994).....	14, 24
<i>Pappas v. Sony Elecs., Inc.</i> , 136 F. Supp. 2d 413 (W.D. Pa. 2000).....	25
<i>Pride v. BIC Corp.</i> , 218 F.3d 566 (6th Cir. 2000)	9
<i>Schneider v. Fried</i> , 320 F.3d 396 (3d Cir. 2003).....	6, 31
<i>State Farm Fire & Cas. Co. v. Holmes Prods.</i> , 165 F. App’x 182 (3d Cir. 2006)	24
<i>State Farm Fire & Cas. Co. v. Steffen</i> , 948 F. Supp. 2d 434 (E.D. Pa. 2013)	10, 12, 21
<i>Three Rivers Hydroponics, LLC v. Florists’ Mut. Ins. Co.</i> , No. 2:15-cv-809, 2020 U.S. Dist. LEXIS 12644 (W.D. Pa. Jan. 27, 2020)	19
<i>United States v. Bo Zhou</i> , No. 06-cr-286 (JAP), 2008 U.S. Dist. LEXIS 65168 (D.N.J. Aug. 25, 2008).....	20
<i>United States v. Schiff</i> , 602 F.3d 152 (3d Cir. 2010).....	16

<i>Walsh v. LG Chem Am.</i> , No. CV-18-01545-PHX-SPL, 2021 U.S. Dist. LEXIS 201344 (D. Ariz. Oct. 19, 2021)	10
<i>Weisgram v. Marley Co.</i> , 169 F.3d 514 (8th Cir. 1999)	20
<i>Werth v. Hill-Rom, Inc.</i> , 856 F. Supp. 2d 1051 (D. Minn. 2012).....	12
Rules	
Fed. R. Civ. P. 26(a)	9
Fed. R. Civ. P. 37(c)(1)	9
Fed. R. Evid. 702	5, 6, 7, 8, 10, 11, 13, 16, 20, 24, 25, 31, 32
Pennsylvania Rule of Civil Procedure 2002(d)	3
Other Authorities	
Donald Hoffmann, PhD, PE, IAAI-CFI and Erik Swonder, MS, PE, IAAI-CFI of Safety Engineering Labs	4
Eric D. Green & Charles R. Nesson, <i>Problems, Cases, and Materials on Evidence</i> 645 (1983).....	6
https://www.nfpa.org/About-NFPA (last visited Apr. 22, 2022)	10, 11
Peter W. Huber, <i>Oallileo’s Revenge: Junk Science in the Courtroom</i> 206-09 (1991).....	7
Tai Nagourney <i>et al.</i> , <i>The Implications of Post-Fire Physical Features of Cylindrical 1865 Lithium-Ion Battery Cells</i> , Fire Technology (Jan. 2021).....	22, 23

I. Introduction

This is a products liability subrogation case arising out of a house fire that started when Plaintiff left a stovetop burner on, which resulted in moderate fire and smoke damage to Plaintiff's kitchen. The cause of this fire is clear. It is undisputed that the left rear burner on the stovetop was found in the "on" position after the fire, that Plaintiff left combustible materials in proximity to the burner prior to the fire, and that the burner was a competent source to have ignited that material and caused the fire at issue in this case. Yet, despite the undisputed facts that point directly and unequivocally at one logical conclusion, Plaintiff has ignored the stovetop burner entirely and instead claims that an Apple iPad Air 2, allegedly located next to the stovetop, was the cause of the fire.

Plaintiff has no reliable expert testimony to support his assertion. Plaintiff presented two witnesses as purported experts to address causation and defect: David Klitsch and Michael Eskra.¹ Neither of those experts' opinions is based upon reliable methodology or accepted scientific facts. Indeed, their opinions are directly contradicted by applicable peer-reviewed scientific literature and amount to nothing more than rank speculation.

Plaintiff retained Mr. Klitsch to offer opinions regarding the purported area of origin of this fire, which Mr. Klitsch conveniently opines is a few inches to the left of the stovetop burner that was in the on position. Mr. Klitsch concedes that the physical evidence supports including the stovetop burner within the area of origin of the fire, but nonetheless excludes it as a potential cause because—contrary to all physical evidence—the homeowner (who was not home during the alleged fire) maintains that the stovetop was off on the morning of the fire. To explain how the

¹ Plaintiff additionally offers a third witness, Dr. Frank Ferrese. Dr. Ferrese was instructed by Plaintiff to rely on Mr. Klitsch for the area of origin and Mr. Eskra for the "battery." As such, he asserts no opinions that have any bearing on liability or damages.

stovetop burner was found in an on position after the fire, Mr. Klitsch offers a speculative theory that it must have been rotated into its “on” position during, and as a result of, the fire. Mr. Klitsch offers no testing, data, or other foundation for this nonsensical theory.

Plaintiff also disclosed Mr. Eskra to opine that the Apple iPad Air 2 was the cause of the fire. Mr. Eskra bases his opinion upon his perceived ability to distinguish between internal shorting in and fire damage to a lithium-ion battery based upon a CT scan. Yet applicable peer-reviewed scientific literature conclusively establishes that Mr. Eskra’s “methodology” is impossible. Indeed, rather than being “generally accepted,” the bases for Mr. Eskra’s opinions in this case have been roundly rejected by the scientific community. Like Mr. Klitsch, Mr. Eskra’s opinions are speculative and not based upon any reliable scientific methodology.

Plaintiff cannot meet his burden of establishing the admissibility of the opinions of either Mr. Klitsch or Mr. Eskra under *Daubert*. This Court thus should exercise its gatekeeping function and exclude those opinions in their entirety.

II. Background

A. Factual Background

On the morning of March 2, 2020, a fire broke out in the kitchen at the home of Michael Macaluso, his fiancée Michaelene Tiger, and their two children. *See* ECF No. 25 (First Amended Complaint) at ¶ 1; Ex. A, Report of David Klitsch at 9. The fire was contained to the area of the kitchen by the stovetop and caused moderate smoke damage to the rest of the house. Ex. B, Report of Donald Hoffmann and Erik Swonder at 3. A deputy fire marshal with the Pennsylvania State Police investigated the fire scene on the day of the fire. Ex. C, Tr. of Fire Marshal Jeffrey Winters at 28:12-13. During his investigation, the fire marshal altered and removed debris from the countertop and placed what he believed to be the remains of an iPad and various other electronic components in a pile on a cookie sheet on the stovetop. *Id.* at 140:12-23.

On March 5, 2020, at the behest of Plaintiff's insurance company, Allstate,² and without Apple's knowledge or participation, Mr. Klitsch performed a scene inspection of the property during which he collected only the remains of an Apple iPad Air 2 (the "subject iPad") from the electric stovetop (where it was placed by the fire marshal) and an empty iPad box from a bedroom closet. Ex. D, Tr. of David Klitsch ("Klitsch Tr.") at 82:20-83:11, 85:10-20. Mr. Klitsch also interviewed Mr. Macaluso and Ms. Tiger, the owner of the subject iPad, who reported that the subject iPad was plugged into the receptacle next to the stovetop on the morning of the fire. Ex. A at 10. Significantly, Ms. Tiger denied any prior issues with the subject iPad, including but not limited to any issues with the device overheating. *Id.*

On March 31, 2020, Mr. Klitsch removed additional evidence from the scene during an inspection that Apple was not permitted to attend. *See* Ex. E, Mar. 29, 2020 Emails. Mr. Klitsch collected the electric stovetop, an adjoining outlet, a microwave, a Keurig coffeemaker, and other fire debris during his independent removal of evidence. Ex. A at 15.

Plaintiff thereafter retained the services of Michael Eskra specifically to perform an analysis of the iPad. Ex. F, Tr. of Michael Eskra at 7:9-8:8, 10:17-23. On April 8, 2020, Mr. Eskra arranged for a CT scan of the subject iPad without Apple's knowledge or consent. *Id.* at 133:7-11; Ex. G, Aug. 17, 2020 Emails. Mr. Eskra reviewed these CT scans in April 2020, and concluded that it was "highly probable" that the subject iPad caused the fire. Ex. F at 143:24-144:17.

A joint artifact inspection was conducted on June 24, 2020. Ex. A at 3. During the inspection, the evidence showed that the left rear burner of the stovetop was on at a medium-high setting at the time of the fire. Ex. A at 17. The evidence also revealed burned remains of a cardboard multi-pack box of potato chips on and around the stovetop, including portions melted

² Allstate is the real party in interest in this subrogation lawsuit but, pursuant to Pennsylvania Rule of Civil Procedure 2002(d), the subrogee (Michael Macaluso) is the named plaintiff.

to the stovetop itself. Ex. A at 17; Ex. D at 102:15-103:10. A second joint artifact inspection was conducted on October 7, 2021. Ex. A at 3.

On February 14, 2022, Apple disclosed the expert report of Donald Hoffmann, PhD, PE, IAAI-CFI and Erik Swonder, MS, PE, IAAI-CFI of Safety Engineering Labs. Ex. B. Dr. Hoffmann and Mr. Swonder opine that the subject fire was caused when combustibles in the form of cardboard snack packaging were improperly stored on the stovetop while the stovetop burner was left on and unattended. *Id.* at 23-24.

The same day, Plaintiff disclosed the expert reports of David B. Klitsch, IAAI-CFI (V) of Technical Fire Analysis, LLC; Michael Eskra, CFEL, CVFL, CFII, PMP of Eskra Technical Products, Inc.; and Frank T. Ferrese, PhD, PE of FJT Technologies, Inc. Ex. A; Ex. H, Report of Michael Eskra; and Ex. I Report of Frank Ferrese. In their respective reports, Mr. Klitsch addresses only his alleged area of origin,³ and Mr. Eskra addresses only the subject iPad. *See generally* Ex. A; Ex. H. Plaintiff's electrical engineer, Dr. Ferrese, initially excluded the electric stovetop from his analysis based solely on an instruction that the stovetop was not within Mr. Klitsch's area of origin. Ex. J, Tr. of Frank Ferrese at 44:3-25, 51:9-13. Nonetheless, Dr. Ferrese admitted that he could not rule out the stovetop as the cause of the fire if, as Mr. Klitsch eventually conceded, the physical evidence established that the stovetop was within the area of origin for the fire. *Id.* at 96:6-25, 98:8-16.

On February 28, 2022, pursuant to the applicable Scheduling Order, Apple disclosed a rebuttal report prepared by Dr. Hoffmann and Mr. Swonder in response to Plaintiff's initial expert

³ The area of origin is "a structure, part of a structure, or general geographic location within a fire scene, in which the 'point of origin' of a fire or explosion is reasonably believed to be located." NFPA 921 3.3.13. The point of origin is the "physical location within the area of origin where a heat source, a fuel, and an oxidizing agent first interact, resulting in a fire or explosion." NFPA 921 3.3.149.

reports. Ex. K, Rebuttal Report of Donald Hoffmann and Erik Swonder. In their rebuttal report, Dr. Hoffman and Mr. Swonder again identified the unattended stovetop burner as the cause of the fire and addressed several mistakes in Mr. Klitsch's, Dr. Feresse's, and Mr. Eskra's reports. *Id.* at 2-20. Plaintiff declined to provide any rebuttal reports.

B. Procedural Background

Plaintiff Allstate Insurance Company, as subrogee of Michael Macaluso, filed its Complaint in the Court of Common Pleas on February 17, 2021. *See* ECF No. 1 at Ex. A (Complaint). Plaintiff alleges causes of action for Strict Products Liability, Negligence, and Breach of Warranties against Apple relating to the subject fire. *Id.* at ¶¶ 1, 5, 9, 13. Plaintiff further alleges that an “event internal to the electrical/battery system in the subject defective iPad” or “one or more defects and/or malfunction in the subject iPad related to the electrical battery system in the subject iPad” caused the fire at the Macaluso residence. *Id.* at ¶¶ 10-11. On March 22, 2021, Apple removed the case to the Eastern District of Pennsylvania and filed an answer on March 29, 2021. *See* ECF No. 3. Plaintiff filed an Amended Complaint on November 15, 2021 to amend the model iPad at issue, to which Apple timely filed an Answer. *See* ECF Nos. 25, 28.

III. Argument

A. Legal Standard And Burden Of Proof

Rule 702 of the Federal Rules of Evidence provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise, if: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the witness has reliably applied the principles and methods to the facts of the case.

The Third Circuit has described Rule 702 as a “trilogy of restrictions on expert testimony: qualification, reliability, and fit.” *Calhoun v. Yamaha Motor Corp., USA*, 350 F.3d 316, 321 (3d Cir. 2003) (quoting *Schneider v. Fried*, 320 F.3d 396, 405 (3d Cir. 2003)).

With respect to qualifications, Rule 702 provides that an expert must be “qualified by knowledge, skill, experience, training, or education.” Of course, the expert’s qualifications must relate to the subject matter on which the expert proposes to opine. *See, e.g., Calhoun*, 350 F.3d at 322 (“An expert may be generally qualified but may lack qualifications to testify outside his area of expertise.”).

The Supreme Court’s landmark opinion in *Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993) explained the standards that expert testimony must meet under Rule 702. *Daubert* charged federal courts with a two-fold “gatekeeping role” of determining (1) “whether the reasoning or methodology underlying the testimony is scientifically valid,” *i.e.*, the reliability prong; and (2) “whether that reasoning or methodology properly can be applied to the facts in issue,” *i.e.*, the relevance or fit prong. *Id.* at 592-93.

With respect to the reliability prong, the Supreme Court explained that an expert’s “[p]roposed testimony must be supported by appropriate validation—*i.e.*, ‘good grounds,’ based on what is known.” *Id.* at 590. In assessing reliability, a “key question” is whether the expert’s theories can and have been tested. *Id.* at 593. As noted by the Court, “[s]cientific methodology today is based on generating hypotheses and testing them to see if they can be falsified; indeed, this methodology is what distinguishes science from other fields of human inquiry” *Id.* at 594 (quoting Eric D. Green & Charles R. Nesson, *Problems, Cases, and Materials on Evidence* 645 (1983)). Another significant factor to be considered is “whether the expert [is] proposing to testify about matters growing naturally and directly out of research conducted independent of litigation, or

whether [he has] developed his opinions expressly for the purpose of testifying.” *Daubert v. Merrill Dow Pharms., Inc.*, 43 F.3d 1311, 1317 (9th Cir. 1995) (“*Daubert 2*”). That an expert testifies based on research he has conducted independent of litigation “provides important, objective proof that the research comports with the dictates of good science.” *Id.* (citing Peter W. Huber, *Oallileo’s Revenge: Junk Science in the Courtroom* 206-09 (1991)). Applying *Daubert*, the Third Circuit explained:

The factors to be taken into consideration when evaluating the reliability of a particular methodology include: “(1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put.”

Murray v. Marina Dist. Dev. Co., 311 F. App’x 521, 523 (3d Cir. 2008) (quoting *Elcock v. Kmart Corp.*, 233 F.3d 734, 745-46 (3d Cir. 2000)).

With respect to the relevance prong of *Daubert*, the Supreme Court explained that, to “assist the trier of fact,” the proposed expert testimony must have a “valid scientific connection to the pertinent inquiry” *Daubert*, 509 U.S. at 591-92. Stated differently, the expert’s proposed scientific testimony must “fit” the specific facts of the plaintiff’s case as a “precondition to admissibility.” *Id.* at 592.

B. The Court Should Exclude Mr. Klitsch’s Opinions As Untimely And Because They Fail To Meet The Standard For Admissibility Under Rule 702.

During his deposition, Plaintiff’s fire investigator, Mr. Klitsch, opined that the area of origin of the fire at the Macaluso residence was immediately to the left of, but did not include, the stovetop burner and that the fire was caused to spread by a cardboard box that was ignited by an iPad that was left next to the stovetop. These opinions should be excluded for two equally dispositive reasons. First, Plaintiff failed to timely disclose Mr. Klitsch’s opinions, which were

omitted entirely from his disclosure and expert report and which were not presented until his deposition. Ex. M, Second Am. Scheduling Order at ¶¶ 3-4; *compare* Ex. A at 24 with Ex. D at 202:18-203:24. Second, Mr. Klitsch's opinions are speculative, not based upon sufficient facts or data, and entirely unreliable. *See* Fed. R. Evid. 702.

1. Mr. Klitsch's opinions were not timely disclosed.

The Court's Second Amended Scheduling Order set the deadline for the parties to simultaneously disclose their experts' opinions for February 14, 2022. Ex. M at ¶ 3. The deadline for any rebuttal reports was February 28, 2022. *Id.* at ¶ 4. Plaintiff disclosed the opinions of his experts, including Mr. Klitsch, on February 14, but disclosed no rebuttal opinions from those experts or any others.

In Mr. Klitsch's report served on February 14, 2022, Mr. Klitsch assumed that the countertop adjacent to the stovetop was clear of any debris or combustible material. Ex. A at 24. Accordingly, for Mr. Klitsch's opinion that the subject iPad started the fire to make any sense at all, Mr. Klitsch had to conclude that a battery thermal event involving an iPad Air 2 would generate sufficient heat and flame to have ignited the cabinets above the countertop even in the absence of an adjacent fuel source. *Id.*

Apple's experts, however, served reports that demonstrated the impossibility of a battery thermal event in an iPad Air 2 igniting a fire on a bare countertop. Ex. B; Ex. K. After receiving and reviewing those reports, Mr. Klitsch retreated from his timely disclosed opinion that the subject iPad on an empty counter top was a sufficient ignition source to have caused this fire. Ex. D at 51:4-20, 60:4-11. At his deposition, he changed his opinion to assume (contrary to what he assumed in his report) that there must have been a *significant* fuel source—which he identified as a cardboard multipack of snack chips purportedly obtained from Costco—in proximity to the subject iPad to allow flames to travel to the upper cabinets and involve the rest of the kitchen in

the fire. *Id.* Mr. Klitsch’s new theory therefore changed everything about his disclosed opinion: his new theory involved a different fuel source, which necessarily would result in different fire patterns, different fire dynamics, and an overall different timeline.

These materially changed opinions were untimely. Plaintiff never disclosed Mr. Klitsch’s new opinions as to the presence or effect of a purported fuel source in proximity to the subject iPad prior to the February 28, 2022 deadline for rebuttal expert opinions. *Id.* at 202:18-203:24. Indeed, Mr. Klitsch did not even consider his new theory until he ran an experiment to test it *after* the deadline for rebuttal disclosures had passed. *Id.* at 57:5-21. Apple only learned of this new theory when it took Mr. Klitsch’s deposition on March 24, 2022, 38 days after the deadline for expert disclosures had passed. *Id.* at 202:18-203:24; Ex. M at ¶ 3.

Plaintiff has provided no justification for his failure to timely disclose the opinions of Mr. Klitsch, nor could he have done so. Apple timely served its disclosures on February 14, 2022. Plaintiff chose not to disclose any rebuttal opinions, and thus failed to disclose any additional or supplemental opinions of Mr. Klitsch responsive to Apple’s disclosures. Plaintiff’s subsequent, untimely disclosure of entirely new opinions by Mr. Klitsch are improper and should be stricken. *See* Fed. R. Civ. P. 26(a) and 37(c)(1); *see also Pride v. BIC Corp.*, 218 F.3d 566, 579 (6th Cir. 2000) (striking post-*Daubert* hearing opinions as a “transparent attempt to reopen the Daubert hearing now that the weaknesses in [the plaintiff’s] expert testimony have been pointed out”); *Leon v. FedEx Ground Package Sys.*, No. CIV 13-1005 JB/SCY, 2016 U.S. Dist. LEXIS 38295, at *17 (D.N.M. Mar. 1, 2016) (striking new opinion testimony not included in the expert’s report: “District courts have broad discretion to exclude untimely disclosed expert-witness testimony”) (quoting *Pride*, 218 F.3d at 578).

2. Mr. Klitsch's untimely opinions are not reliable.

Even if this Court declines to strike Mr. Klitsch's opinions as untimely, Plaintiff still should be precluded from offering them at trial because they lack any scientific basis, are not based on sufficient facts or data, and are unreliable under Rule 702 and *Daubert*.

a. Mr. Klitsch failed to follow NFPA 921 in rendering his opinion as to the fire's area of origin.

As acknowledged by all experts in this case, NFPA⁴ 921 is the universally accepted peer-reviewed comprehensive guide to procedures and techniques for fire investigations in the United States. *See* Ex. A at 2; Ex. B at 14; Ex. F at 239:3-4; Ex. J at 40:13-41:14. Federal courts, including the Eastern District of Pennsylvania, have recognized NFPA 921 as the gold standard for fire cause and origin investigations, particularly in evaluating the admissibility of proffered expert testimony under Rule 702 and *Daubert*. *See, e.g., Chester Valley Coach Works v. Fisher-Price, Inc.*, No. 99 CV 4197, 2001 U.S. Dist. LEXIS 15902, at *11 (E.D. Pa. Aug. 29, 2001) ("NFPA 921 is *the authoritative comprehensive guide* to accepted procedures and techniques for fire investigations") (emphasis in original). In other words, the requirements of NFPA 921 are the generally accepted methodology when it comes to fire cause and origin investigations. *See, e.g., Fireman's Fund Ins. Co. v. Canon U.S.A., Inc.*, 394 F.3d 1054, 1057-58 (8th Cir. 2005) (NFPA 921 "qualifies as a reliable method endorsed by a professional organization"); *State Farm Fire & Cas. Co. v. Steffen*, 948 F. Supp. 2d 434, 442 (E.D. Pa. 2013) ("[I]f an expert properly applies the NFPA 921 guidelines, that application would constitute a reliable method for determining fire causation"); *Walsh v. LG Chem Am.*, No. CV-18-01545-PHX-SPL, 2021 U.S. Dist. LEXIS 201344, at *5 (D.

⁴ The National Fire Protection Association ("NFPA") is the leading global organization for the elimination of death, injury, property, and economic loss due to fire, and has developed more than 300 consensus codes and standards relating to fire safety, prevention, and investigation. *See* <https://www.nfpa.org/About-NFPA> (last visited Apr. 22, 2022).

Ariz. Oct. 19, 2021) (“Federal courts, including this Court, have also recognized NFPA 921 as a reliable method under Daubert”).

While Mr. Klitsch cites to NFPA 921 in his report and testified to its authority at his deposition (Ex. D at 97:19-98:2), he actively contradicted its prescribed scientific methodology in forming his opinion that the area of origin of the fire did not include the stovetop burner that was left on during the fire. As such, this opinion is not based on generally accepted methodology and thus is not admissible under Rule 702. *See, e.g., Fireman’s Fund Ins. Co.*, 394 F.3d at 1059 (excluding experts for violating NFPA 921 because “neither [expert] proposed a specific defect on the composite power supply board that might have caused the fire. Furthermore, neither expert carefully examined this hypothesis of fire origin against empirical data obtained from fire scene analysis and appropriate testing, as required by NFPA 921”).

In conducting his investigation, Mr. Klitsch identified the area of origin of the fire as an area immediately to the left of, but not including, the stovetop burner found to be “on.” Ex. A at 14, 17. He testified that he determined the area of origin based upon his perceived location of the “V pattern” of the smoke and fire damage in the kitchen.⁵ Ex. D. at 183:5-19, 192:16-24, Ex. 12 to Klitsch Tr. But Mr. Klitsch admitted during his deposition that the V pattern observed in the kitchen after the fire actually *includes* the stovetop burner. *Id.* at 199:3-201:104, Ex. 13 to Klitsch Tr. Despite that, Mr. Klitsch testified that he adjusted the location of his V pattern, and therefore his area of origin, to *exclude* the stovetop burner simply because Mr. Macaluso told him that the stovetop was “off” when he left the home prior to the fire. *Id.* at 194:4-20.

⁵ NFPA 921 defines a V pattern as the “pattern created by the effects of fire and smoke exposure on building materials and contents.” NFPA 921, § 6.3.20, 6.3.20.1.1. V patterns are used in conjunction with other evidence in determining the area of origin of a fire. *Id.*

There is nothing in NFPA 921 that permits or condones the alteration of the area of origin to a location that is inconsistent with the physical evidence based upon the subjective statements of a homeowner. Nor has Mr. Klitsch cited to any scientific support for such an endeavor. To the contrary, while NFPA 921 acknowledges that witness statements (among other things) can be considered when determining a fire's area of origin, it specifically provides that "[w]itness statements regarding the location of the origin create a need for the fire investigator to conduct as thorough an investigation as possible to collect data that can support *or refute* the witness statements." NFPA 921, § 18.3.3.14 (emphasis added). Mr. Klitsch did no such thing. Instead, he "uncritically" accepted Mr. Macaluso's claim that the stove that had been found "on" was actually "off" and, based on that statement alone, adjusted his V pattern in a manner inconsistent with the physical evidence to exclude the stovetop burner from his area of origin. *Id.* at 100:3-9. Mr. Klitsch's actions plainly violate the mandates of NFPA 921 and render his conclusion as to the fire's area of origin unreliable. *See Steffen*, 948 F. Supp. 2d at 446 (holding investigator's failure to follow NFPA 921 renders conclusions unreliable); *see also Werth v. Hill-Rom, Inc.*, 856 F. Supp. 2d 1051, 1060 (D. Minn. 2012) ("Although NFPA 921 has achieved general acceptance

in the fire-investigation community, an expert purporting to invoke it must show he applied the methodology reliably to the facts of the case”).⁶

b. Mr. Klitsch’s opinions are not based upon reliable methodology.

In addition to Mr. Klitsch’s failure to adhere to the basic requirements of NFPA 921 in conducting his cause and origin investigation, his opinions also are unreliable under Rule 702 and *Daubert* because they are entirely speculative and not based upon any reliable scientific methodology.

i. Mr. Klitsch’s opinion that the subject iPad is a competent ignition source is contrary to the evidence.

Mr. Klitsch opines that a battery thermal event involving the subject iPad caused the fire at the Macaluso residence. This opinion, however, necessarily is predicated on the assumption that an iPad Air 2 battery is a sufficient ignition source to ignite whatever fuel Mr. Klitsch claims caused the fire to spread to the cabinets above the countertop. In other words, for his opinion to be based on sufficient facts or data, Mr. Klitsch must establish that an iPad Air 2 is capable of

⁶ Mr. Klitsch’s admittedly “uncritical” acceptance of this witness statement is particularly unjustified in light of the fact that practically all of Mr. Macaluso’s other statements about the condition of the kitchen prior to the fire are contradicted by the physical evidence. For example, although Mr. Macaluso testified that the kitchen counter and stovetop were clear prior to the fire, Mr. Klitsch acknowledges that, in fact, there was significant debris in and around the countertop and stovetop at the time of the fire. Ex. D at 102:15-103:10. Additionally, although Mr. Macaluso testified that the Keurig coffee maker was plugged into a different outlet than the iPad prior to the fire, Mr. Klitsch concedes that the physical evidence shows that they were plugged into the same outlet. *Id.* 71:22-72:-3; Ex. A at 13. And although Mr. Macaluso testified that he left a cutting board with a knife on it by the sink, Mr. Klitsch acknowledges that the cutting board and knife actually were adjacent to the stovetop immediately after the fire. *Id.* at 71:15-21, 101:1-7.

igniting the fuel that Mr. Klitsch claims allowed this fire to propagate (in this case, the snack box container).⁷ Mr. Klitsch has not and cannot make any such showing.

Mr. Klitsch admitted that he did not conduct any tests to determine whether an iPad Air 2 could be a competent ignition source for a cardboard box of chips (or any other combustible material present in the kitchen when the fire began). Ex. D at 219:4-9. He likewise admitted that he has never reviewed any tests, experiments, or studies that might support such a notion. *Id.* at 219:21-220:10.

Mr. Klitsch, however, did run an experiment to demonstrate that a cardboard snack box was a sufficient fuel source to spread fire to the cabinets above the countertop. In that experiment, Mr. Klitsch held a lighter to a cardboard box of chips until it ignited, and then observed the fire spread to cabinetry overhead. *Id.* at 222:7-223:25. But to actually ignite the cardboard box in his experiment, Mr. Klitsch had to hold an open flame in direct contact with it for well over a minute. *Id.* at 218:24-219:3. Mr. Klitsch did no analysis whatsoever to determine whether an iPad Air 2 battery thermal event would be similarly capable of igniting a cardboard box. *Id.* at 219:4-9. Indeed, Mr. Klitsch admitted that he did not know if an iPad Air 2 battery thermal event would even expel flames (*id.* at 220:11-16), whether any such event would be of sufficient duration to ignite a cardboard box (*id.* at 220:24-221:9), or where the subject iPad was in relation to the cardboard box in the kitchen on the morning of the fire (*id.* at 222:7-12).

In contrast, Dr. Hoffmann conducted testing to determine whether a battery thermal event in an iPad Air 2 at the same state of charge as the subject iPad on the morning of the fire could ignite a cardboard box and concluded that it could not. Ex. N, Tr. of Donald Hoffmann at 6:19-

⁷ As discussed in Section III(B)(1), *supra* at pp. 8-10, Mr. Klitsch opined in his report that the countertop was bare except for the subject iPad but changed his opinion and untimely disclosed a new opinion as to the presence of a fuel source after reading Apple's expert report. Ex. A at 24.

25, 25:7-26:19. In particular, his test showed that a battery thermal event in a substantially similar iPad device emitted no fireball (as assumed by Mr. Klitsch) and could not ignite a nearby cardboard box. *Id.* Accordingly, Mr. Klitsch’s speculative theory that the cardboard box of snack food was ignited by the subject iPad is demonstrably wrong and is contradicted by all available evidence.

Without the requisite foundation for his opinion, Mr. Klitsch can only speculate as to whether an iPad Air 2 is a sufficient ignition source to ignite the subject fire. Opinions like that offered by Mr. Klitsch, based on “unsupported speculation,” are not reliable and, therefore, not admissible. *See, e.g., Oddi v. Ford Motor Co.*, 234 F.3d 136, 158 (3d Cir. 2000) (“An ‘expert’s opinion must be based on the methods and procedures of science rather than on subjective belief or unsupported speculation.”) (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 742 (3d Cir. 1994)); *Chester Valley Coach Works*, 2001 U.S. Dist. LEXIS 15902, at *37 (excluding testimony where expert “did not use an exemplar to test his theory nor [did] he point to any such tests performed by others, any literature indicating such a fault progression, or any other generally accepted texts or treatises to support his conclusion”).

- ii. Mr. Klitsch’s opinion that the burner control was turned on during and as a result of the fire is not based on sufficient facts or data.

Mr. Klitsch acknowledges that the control for the left rear burner of the stovetop was found to be in the medium-high “on” position after the fire. Ex. A at 21, 24; Ex. D at 73:19-74:7. It is undisputed that the control knobs are operated on a “push-to-turn” basis, meaning that a user must manually push in the knob to turn it on. Ex. B at 21; Ex. D at 233:8-9. The only logical interpretation of this undisputed evidence is that somebody turned the stovetop burner on prior to the fire and simply neglected to turn it off.

Rather than accept this Occam’s razor conclusion, however, Mr. Klitsch offers a bizarre theory in which he posits that the contents of the cabinet adjacent to the stovetop fell diagonally

down across the control panel during the fire and somehow moved the control for the left rear burner to an “on” position. Ex. A at 21, 24. Amazingly, Mr. Klitsch acknowledges that it would be “ludicrous” for this sequence of events to activate the “push-to-turn” function of the knob, but he speculates that the falling dishes somehow bypassed that operation and turned the burner on. Ex. D at 236:11-240:15. Mr. Klitsch admits, however, that there is zero physical evidence to support this theory. *Id.* at 73:19-74:7. Rather, he simply testified that it was “common sense.” *Id.* at 232:6-14. He further admits that he does not know how much force would be needed to engage the control to its “on” position (*id.* at 234:5-9) and he does not know if the burner could even be activated without pushing in the knob (*id.* at 238:2-7). Mr. Klitsch did not conduct any tests to determine whether his theory was even possible, much less probable, and is aware of no such tests conducted by anybody else. *Id.* at 234:10-11, 238:9-12, 240:11-15, 245:4-18.

Simply put, Mr. Klitsch has not offered any reliable scientific basis to support his fanciful theory that the fire itself caused the left rear burner to turn on. Courts routinely hold that such baseless opinions are inadmissible: “If the witness is relying solely or primarily on experience, then the witness must explain how that experience leads to the conclusion reached, why that experience is a sufficient basis for the opinion, and how that experience is reliably applied to the facts.” *Connearney v. Main Line Hosps., Inc.*, No. 15-02730, 2016 U.S. Dist. LEXIS 153143, at *6 (E.D. Pa. Nov. 4, 2016) (quoting advisory committee’s notes to 2000 amendment to Rule 702). Mr. Klitsch has failed to offer any such explanation for his opinions here.

3. Mr. Klitsch’s untimely opinions do not fit the facts of this case.

Mr. Klitsch’s opinions also should be excluded because they lack the requisite fit with the facts of this case. In assessing whether an expert’s proposed testimony meets the “fit” prong of *Daubert*, the Court must determine “whether [the] expert testimony proffered ... is sufficiently tied to the facts of the case so that it will aid the jury in resolving a factual dispute.” *United States*

v. Schiff, 602 F.3d 152, 173 (3d Cir. 2010) (alterations in original) (quoting *Daubert*, 509 U.S. at 591). Mr. Klitsch's proffered opinions here properly are excluded because they are based on his untimely disclosed experiment, which was conducted after the expert and rebuttal report deadlines and which bears no reasonable relation to the facts of this case.

In an effort to support his evolving opinions as to the cause and origin of this fire, Mr. Klitsch set up an "experiment" ostensibly to demonstrate how a fire that originated at the subject iPad could ignite a box of snack chips and subsequently spread to the cabinets above a countertop. But, rather than causing an exemplar iPad Air 2 to undergo a battery thermal event to test whether such an event was capable of igniting the cardboard box, Mr. Klitsch simply placed an unspecified model of iPad (with unknown configuration) next to the box as window dressing and then held an open flame to an indiscriminately chosen location on the snack box for one minute and fourteen seconds to set the box on fire. *See* Ex. D at 211:2-5, 218:24-219:3, 222:7-223:25.

This simulation is in no way similar to the facts of this case. Indeed, Mr. Klitsch admitted that he does not know if the subject iPad would emit any flames during a battery thermal event, much less whether it would have done so for the minute-plus that his experiment showed was necessary for an open flame to ignite the cardboard box. *Id.* at 220:11-221:9. Mr. Klitsch also admitted that he does not know where the subject iPad was on the counter when the subject fire started (*id.* at 222:7-12), where the subject iPad was in relation to the cardboard box (*id.*), whether the subject iPad was ever in contact with any portion of the box (*id.* at 223:10-14), or the ignition point on the box (*id.* at 222:13-18). In other words, Mr. Klitsch simply guessed as to where to place all the items involved in his "experiment."

Finally, when confronted with inconsistencies between the results of his test and the physical evidence from the fire scene, Mr. Klitsch discounted them as due to differences in

“ventilation.” *Id.* at 182:13-183-4. 207:13-22. Yet, Mr. Klitsch conceded that he “did no testing related to ventilation or how it affects the fire spread.” *Id.* at 207:4-14.

Mr. Klitsch’s entire simulation was purposely designed to manufacture a specific outcome. But using a lighter to set a cardboard box on fire next to an unidentified iPad provides no insight whatsoever into whether the subject iPad itself could ignite the box. As such, Mr. Klitsch’s opinions based on that experiment do not “fit” the facts of this case, and properly are excluded on that basis as well. *See, e.g., Mfg. Res. Int’l, Inc. v. Civiq Smartscales, LLC*, No. 17-269-RGA, 2019 U.S. Dist. LEXIS 149994, at *20 (D. Del. Sept. 4, 2019) (holding expert’s opinion must be the product of sufficient facts or data).

C. The Court Should Exclude Mr. Eskra’s Opinions Because He Is Not Qualified, His Opinions Are Unreliable, And They Do Not Fit The Facts Of This Case.

Plaintiff’s battery expert, Mr. Eskra, opines that the fire at issue in this case started due to an internal short circuit in one of the battery cells of the subject iPad, and that the short was caused by a defect in the subject iPad’s battery management system. These opinions should be excluded for at least three reasons. First, Mr. Eskra is not qualified to opine as to the operation of the iPad’s battery management system (as opposed to its lithium-ion battery cells). Second, Mr. Eskra’s opinion that one of the subject iPad’s battery cells suffered a short circuit is unreliable because it is based solely on his interpretation of CT scans taken of the fire-damaged device, but he can point to no published literature, testing, or studies that support his “methodology.” Third, Mr. Eskra’s opinion that the iPad’s battery management system was defective is based on his testing of two iPad models that are not substantially similar to the iPad Air 2 at issue in this case.

1. Mr. Eskra is not qualified to opine on the subject iPad’s battery management system.

Mr. Eskra holds himself out as an expert in lithium-ion batteries, with a focus on their design and manufacture and the science of their operation. But Mr. Eskra explicitly admitted that the design of the subject iPad and its battery is *not* defective. Ex. F at 267:3-268:2.

Rather, he testified that he believes a defect exists in the subject iPad's battery management system. *Id.* at 267:12-16. But that is what controls how the battery operates. It is not the battery itself. Mr. Eskra readily admits that he is not an expert in the design of iPad devices or their battery management systems. *Id.* at 268:1-269:16. Indeed, he explicitly disclaimed any expertise on the design of the battery management system the subject iPad:

Q: Are you an expert on the battery management system in the subject iPad from the Macaluso fire?

A: I think I'm turning into one, but no.

Q: So you don't hold yourself out as an expert on the battery management system in the iPad recovered from the Macaluso fire?

A: No.

Id. at 269:1-11.

The Court's inquiry need go no further. Mr. Eskra himself confirms that he is not an expert in the area upon which he's being offered to testify: the battery management system of the subject iPad. An expert's "knowledge, skill, experience, training, or education"—*i.e.*, his expertise—must be in the field upon which he is going to testify; an expert well qualified in one field is not permitted to offer opinions in other fields. *See, e.g., Calhoun*, 350 F.3d at 322; *Balu v. Cincinnati Ins. Co.*, No. CV 19-3604, 2021 U.S. Dist. LEXIS 72492, at *5 (E.D. Pa. Apr. 15, 2021) ("an expert wishing to testify as to a cause of damage must have expertise on causation *as it relates to the relevant subject matter*") (emphasis added) (citing *Aloe Coal Co. v. Clark Equip. Co.*, 816 F.2d 110, 114 (3d Cir. 1987)); *Three Rivers Hydroponics, LLC v. Florists' Mut. Ins. Co.*, No. 2:15-cv-809, 2020 U.S. Dist. LEXIS 12644, at *9 (W.D. Pa. Jan. 27, 2020) (excluding expert in process analysis and overall ozone system design from testifying about a specific sensor about which he admitted he is

not an expert); *Daniels v. Grand Lux Café, LLC*, No. 12-7848 (JEI/KMW), 2015 U.S. Dist. LEXIS 38346, at *12 (D.N.J. Mar. 26, 2015) (excluding expert in criminal outcomes from testifying about the adequacy of sexual harassment policies as outside of expertise). The Court should thus preclude Mr. Eskra from offering opinions that he is admittedly unqualified to give.

2. Mr. Eskra's opinions as to causation are unreliable.

a. Mr. Eskra's opinions are the result of confirmation bias.

Mr. Eskra was retained by Plaintiff in this case specifically to “review CT scans and attend a lab exam to determine whether an Apple I-Pad [*sic*] could be causal in [*sic*] fire that occurred on March 2, 2020 at the Macaluso residence.” *See* Ex. H at 2. Mr. Eskra confirmed that the first step he took in his “investigation” of this matter was to review CT scans of the remnants of the subject iPad that were taken on April 8, 2020—more than two months prior to the parties’ joint examination of fire artifacts on June 24, 2020. Ex. F. at 133:7-11, 134:4-12. On the basis of his review, Mr. Eskra concluded in April 2020 that it was “highly probable” that the iPad was the cause of the fire. *Id.* at 143:24-144:17, 187:1-19.

Mr. Eskra's conduct in reaching a conclusion before undertaking an investigation of all of the artifacts recovered from the fire scene is directly contrary to the requirements of NFPA 921, which provides that “the proper methodology for a fire or explosion investigation is to *first* determine and establish the origin(s), *then* investigate the cause: circumstances, conditions, or agencies that brought the ignition source, fuel, and oxidant together.” NFPA 921, § 4.1 (emphasis added). Here, however, Mr. Eskra, took the exact opposite approach. He targeted the subject iPad at Plaintiff's direction, reviewed the CT scan months before examining any other artifacts from the fire, came to a conclusion based on the imaging alone that the subject iPad was the cause of the fire, and only *then* proceeded to investigate the origin of the fire. Ex. F at 7:9-16, 10:17-23, 134:15-25, 143:17-144:17, 191:14-20.

Courts around the country, including in this jurisdiction, routinely hold that such a reverse analysis—a pre-inspection conclusion based on the review of a single product—controverts NFPA 921 and is inadmissible under Rule 702. *See, e.g., Weisgram v. Marley Co.*, 169 F.3d 514, 518-20 (8th Cir. 1999) (excluding experts for failing to consider reasonable potential ignition sources); *Chester Valley Coach Works*, 2001 U.S. Dist. LEXIS 15902, at *16 (“It is exactly this type of ‘putting the cart before the horse’ that NFPA 921 forbids. Section 2-3.6.1 of NFPA 921’s ‘Basic Methodology’ chapter states that ‘until data have been collected, no specific hypothesis can be reasonably formed or treated.’”); *see also United States v. Bo Zhou*, No. 06-cr-286 (JAP), 2008 U.S. Dist. LEXIS 65168, at *16 (D.N.J. Aug. 25, 2008) (excluding expert testimony because the Court found “nothing to suggest that he applied the methodology required by NFPA 921”). Another court in this District explained that, in fire investigations,

limited analysis of the available data runs afoul of NFPA 921 § 4.3.8’s stern warning against “[e]xpectation bias ... that occurs in scientific analysis when investigator(s) reach a premature conclusion without having examined or considered all of the relevant data.... The introduction of expectation bias into the investigation results in the use of only that data that supports this previously formed conclusion and often results in the misinterpretation and/or the discarding of data that does not support the original opinion.”

Steffen, 948 F. Supp. 2d at 444 (alterations in original); *see also Chester Valley Coach Works*, 2001 U.S. Dist. LEXIS 15902, at *17 (“[U]ntil data have been collected, no specific hypothesis can be reasonably formed or treated. All fires ... should be approached by the investigator *without presumption*.”) (emphasis in original) (quoting NFPA 921, § 2-3.6.1).

Even worse, Mr. Eskra’s confirmation bias has tainted the opinions of Plaintiff’s other experts by encouraging them to disregard the stovetop burner that was found to be on immediately after the fire:

Q. And what did you discuss with Mr. Klitsch and Dr. Ferrese after discovering the knob or the control for the left-rear burner was in the on position?

....

- A. I think I probably told them that it really is irrelevant. And the reason being is that if that was on and started a fire, one, it didn't match the fire patterns. But two, there was damage to the cell [of the iPad battery] that couldn't be accounted for.

Ex. F at 141:13-24.

Mr. Eskra's "investigation" in this case is a paradigmatic case of confirmation bias. From the moment he was retained by Plaintiff, Mr. Eskra focused only on the subject iPad and actively ignored or explained away all other evidence recovered from the fire scene, including the evidence that the left rear burner of the stovetop was on when the fire started. *Id.* at 186:10-187:19. This approach violates NFPA 921 and the requirements for the admissibility of expert testimony. As such, Mr. Eskra's opinions are inadmissible.

- b. Mr. Eskra's methodology in opining that the subject iPad suffered a short circuit is not generally accepted.

Mr. Eskra's opinions also should be excluded because they are not based upon a reliable, generally accepted methodology. Mr. Eskra opines that the fire at issue began not with the stovetop burner that was left on and unattended, but rather when a battery cell in the subject iPad experienced a short circuit. This opinion, however, relies solely on his review and interpretation of the CT scans taken after the fire of the two battery cells of the subject iPad. Ex. F at 206:3-12, 207:9-14, 294:8-12. In particular, he claims that the CT scans of one cell show internal, localized damage to the electrode windings while the scans of the other cell show damage only to the exterior windings. *Id.* at 196:11-14, 211:22-212:10. As a result of his review of these CT scans and comparison of the damage patterns of the two battery cells, Mr. Eskra concludes that the cell with internal damage suffered a short circuit while the cell with external damage was attacked by the fire that raged in the kitchen. *Id.* 296:15-25. But Mr. Eskra's "methodology" in reaching this opinion—divining a short circuit through his interpretation of CT scans alone—is not generally accepted. *Id.* at 222:5-11, 225:11-19, 234:8-16, 279:24-280:4.

Indeed, Mr. Eskra conceded at his deposition that the only published article in the scientific literature to address the use of post-fire imaging to identify a pre-fire internal fault establishes that one *cannot* distinguish that damage from damage caused by exposure to fire. *Id.* at 250:10-20, 254:21-255:7, 256:6-19; Ex. O, Tai Nagourney *et al.*, *The Implications of Post-Fire Physical Features of Cylindrical 1865 Lithium-Ion Battery Cells*, Fire Technology (Jan. 2021). That article explains that, “[d]uring the course of some litigation matters, forensic engineers and scientists have relied on *untested hypotheses* that pointed to specific post-fire physical features of a Li-ion cell as evidence that it caused a fire as opposed to the manifestation of those features as a result of fire attack.” Ex. O at 1710 (emphasis added). One such “untested hypothesis” is the notion that “[d]amage localized to the interior electrode windings compared to the external windings indicates cell failure and fire causation.” *Id.*

Because these theories asserted in litigation “were not supported by peer reviewed scientific literature or experiments” (*id.*), the authors designed an experiment whereby 48 lithium-ion batteries were exposed to fire in a test chamber and then were examined to assess whether they displayed characteristics that litigation consultants claimed were associated only with internal short circuits. *Id.* at 1710-16. That experiment showed that each of the physical features asserted in litigation “were successfully produced in cells that were intentionally burned, indicating that these features are not indicative of cell failure and/or fire causation.” *Id.* at 1716. With respect specifically to internal damage patterns, the experiment found that “[c]ells that are victims of a fire may have damage localized to their inner or outer electrode windings or may have continuous damage throughout. All three scenarios were observed during testing.” *Id.* at 1718. In other words, this peer-reviewed article concluded that “[l]ocalized electrode windings damage does not indicate fire causation.” *Id.* at 1721.

Despite acknowledging this article and the testing it describes during his deposition, Mr. Eskra admitted that the only “evidence” of his theory that a battery cell in the subject iPad suffered an internal short circuit is the condition of the electrode windings seen on CT scans taken after the fire. Ex. F at 277:1-13, 294:8-12, 295:2-14, 296:15-297:2. Of course, the foregoing peer-reviewed scientific literature expressly found that such damage can be caused by fire attack, and thus cannot be used by itself to conclude that the battery cell suffered an internal short. Ex. O at 1721.

Mr. Eskra admits that he knows of no published literature suggesting that it is possible to determine that a lithium-ion battery suffered a short circuit merely by reviewing CT scans and comparing damage to internal electrode windings in different cells. Ex. F at 225:11-19, 234:8-16. Likewise, he conceded that the only testing he was aware of on the subject was the above-referenced article that establishes that Mr. Eskra’s methodology is scientifically invalid. *Id.* at 167:20-25, 249:11-250:20. Mr. Eskra further acknowledged that he had not attempted to conduct his own testing to refute the results in the peer-reviewed literature, nor had he published any rebuttal or response to those findings. *Id.* at 246:248:19. In short, Mr. Eskra admitted that there is not a single published article, study, or test that supports his methodology of reviewing damage patterns in electrode windings to determine whether a cell was attacked by fire or suffered an internal short. Indeed, there exists only peer-reviewed literature that contradicts it.

Yet, rather than accepting that his methodology is wrong, Mr. Eskra takes the tack that he is the only one who is right. To that end, he readily admitted in his deposition that he is the only person who is talking about this type of analysis, *i.e.*, detecting an internal short circuit from the post-fire condition of lithium-ion batteries. *Id.* at 236:9-13. Indeed, Mr. Eskra concedes that, other than a handful of plaintiff-side experts who use this analysis in their paid litigation consulting work, he is not aware of *anyone* who ascribes fire causation to a short circuit in a lithium-ion

battery based only upon a review of post-fire CT scans. *Id.* at 225:11-19, 279:24-280:9, 247:12-17.

It is well settled “that the language of Rule 702 requiring the expert to testify to scientific knowledge means that the expert’s opinion must be based on the ‘methods and procedures of science’ rather than on ‘subjective belief or unsupported speculation.’” *State Farm Fire & Cas. Co. v. Holmes Prods.*, 165 F. App’x 182, 186 (3d Cir. 2006) (quoting *In re Paoli R.R. Yard*, 35 F.3d at 742). Courts have consistently excluded expert testimony not based on established scientific principles as unreliable. *See, e.g., Hook v. Whiting Door Mfg. Corp.*, No. 3:15-281, 2019 U.S. Dist. LEXIS 23807, at *26 (W.D. Pa. Feb. 14, 2019) (citing cases). One tell-tale sign of unreliability is the lack of any published testing or studies that support the expert’s methodology. *See, e.g., id.* at *24-26 (excluding expert testimony “because [the expert] does not cite any peer-reviewed literature or explain how it supports his conclusions” and “[the expert] does not discuss generally accepted ... methods, let alone analyze their relationship to his conclusions”); *Calhoun*, 350 F.3d at 321 (excluding expert because there was “no literature confirming this theory, nor demonstrable tests. Lacking support, his testimony was speculative and unreliable”); *Chester Valley Coach Works*, 2001 U.S. Dist. LEXIS 15902, at *37 (excluding testimony where expert could point to no “literature ... or any other generally accepted texts or treatises to support his conclusion”); *Cartwright v. Home Depot U.S.A., Inc.*, 936 F. Supp. 900, 903 (M.D. Fla. 1996) (excluding “recognized” expert’s testimony regarding “a major extension” of his former hypothesis in part because the new theory had not been the subject of any published peer-reviewed papers).

According to Mr. Eskra, he is right because he says so; the fact that there is not a single published article that supports his methodology—and, indeed, that the testing published in the

peer-reviewed literature directly contradicts that methodology—matters not a whit to him. This is not enough to meet the threshold for admissibility under Rule 702 or *Daubert*. See, e.g., *Pappas v. Sony Elecs., Inc.*, 136 F. Supp. 2d 413, 426-27 (W.D. Pa. 2000) (“To admit causation testimony of the kind offered by [the expert], I must have some evidence of exactly what is a valid methodology for fire investigators and electrical engineers in instances such as the present case.... If *Daubert* and its progeny require anything, it is that plaintiffs come forward with proof of a valid methodology based on more than just the *ipse dixit* of the expert.... Accordingly, I have no choice but to exclude his causation testimony under Rule 702 of the Federal Rules of Evidence.”). The Court should therefore exclude Mr. Eskra’s opinion that the battery cell of the subject iPad suffered a short circuit that caused the fire.

- c. Mr. Eskra’s opinion as to the cause of the alleged internal short in the subject iPad is unreliable and based on speculation.

Even beyond the fact that his methodology is untethered to accepted science, Mr. Eskra’s opinions should be excluded for the independent reason that he admits that he can do no more than speculate as to the existence of a defect in the subject iPad.

Mr. Eskra claims that the subject iPad’s battery management system was defectively designed because it permitted the battery cells in the device to be recharged from low states of charge, typically below three volts. Ex. F at 267:12-16, 291:18-292:23. He further opines that one of the subject iPad’s cells suffered from a “soft short” where it “over-discharged” in a way that caused its state of charge to drop more quickly than in a healthy cell. *Id.* at 288:24-289:4. According to Mr. Eskra’s hypothesis, due to the soft short, the cell’s charge routinely fell well below three volts, at which low charge it suffered various forms of internal damage. *Id.* at 289:5-290:16. Mr. Eskra contends that this damage was “accumulative,” so that each time the battery management system permitted the cell to recharge and then over-discharge back to a low level of

charge, more damage was done to the cell. *Id.* at 109:14-16. Eventually, the damage caused by the repeated over-discharging of the battery cell accumulated to the point that a “hard short”—*i.e.*, a short circuit causing a battery thermal event—occurred. *Id.* at 288:25-289:4. Mr. Eskra’s theory is wholly devoid of any factual basis.

Mr. Eskra admitted, as he must, that the subject iPad’s battery management system has “appropriate charge and discharge cut-off voltages” pursuant to which the device powers off once the charge reaches about 3.5 volts. *Id.* at 306:19-307:7.⁸ In practical terms, the discharge cut-off means that, once the cells reach a charge of 3.5 volts, the device powers down and cannot be turned on again until it is plugged in and charged. *Id.* at 309:23-310:1. For a healthy battery, it takes many months (at least) for the cells to discharge to below three volts after the device shuts down. *See id.* at 309:14-18. As Mr. Eskra recognizes, there is no evidence of any such long-term storage of the subject iPad. *Id.* at 310:2-7. Accordingly, for Mr. Eskra’s theory to hold water, a battery cell in the subject iPad must have suffered from a soft short that caused it to rapidly discharge after the shutoff at 3.5 volts and fall below three volts before the device could be plugged in and charged. The record in this case is devoid of any evidence to support such a notion.

When asked to describe what caused a soft short to develop in the subject iPad’s battery cell, Mr. Eskra admitted: “I would say I don’t know specifically the exact mechanism that caused it.” *Id.* at 290:7-16. This is not the only thing that Mr. Eskra does not know. He also does not know when the alleged internal short developed or how long it existed before the supposed failure. *Id.* at 291: 1-17. He does not know anything about the general usage or behavior of the battery in the subject iPad prior to the fire, including how often the subject iPad was used per day, when and

⁸ Mr. Eskra also acknowledged that “[t]he battery management chip [in iPad devices] in general is pretty good. The battery management system is pretty good on the Apples.” Ex. F at 285:18-20.

how often it was charged, what kind of charger was used, the time it took to charge, how many times the battery was run down to automatic shutdown, how many times the battery cycled, or the battery's run time. *Id.* at 151:3-16, 155:14-21, 156:1-157:24, 159:15-18. Mr. Eskra also does not know the specific cell chemistry of the battery cells in the subject iPad. *Id.* at 293:7-10. And he knows nothing about the subject iPad's battery on the day of the fire, including, critically, the state of charge at the time of the fire. *Id.* at 155:22-25, 158:6-10.

Nor can Mr. Eskra point to any evidence in the record of this case that the subject iPad was displaying any symptoms of soft-shortening prior to the fire. *Id.* at 159:15-25. Indeed, when questioned about what evidence of the pre-fire behavior of the subject iPad supports his defect opinion, Mr. Eskra testified that he believes the subject iPad was "getting hot" in the months leading up to the fire, and that the Macaluso's reported the issue to Apple and were sent a new charging adapter in response. *Id.* at 150:23-151:2. There is no evidence in the record to support these assumptions.

To the contrary, Mr. Klitsch states in his report that Ms. Tiger specifically stated that the device was *not* getting hot (Ex. A at 10), and Mr. Macaluso testified that the subject iPad had no issues. Ex. P, Tr. of Michael Macaluso at 145:25-17, 155:22-25. Thus, the factual bases Mr. Eskra cites are flat wrong, if not made up out of whole cloth in a last-ditch effort to salvage his unsound, preconceived hypothesis. Consequently, Mr. Eskra's opinions based on such incorrect understanding of the facts of this case are inadmissible. *See Bolt v. Ford Motor Co.*, No. 1:16-cv-00447-SGC, 2019 U.S. Dist. LEXIS 44678, at *19 (N.D. Ala. Mar. 19, 2019) (excluding expert in part for basing his opinion on a mistake of fact).

Faced with a void of any pre-fire evidence to support his defect theory, Mr. Eskra can point only to the post-fire CT scans and his visual inspection of the remnants of the subject iPad's battery

cells. He claims that these show “fragmentation of the electrode in the area of shorting.” Ex. F at 276:24-277:3. As with his “methodology” of conjuring up short circuits based on his idiosyncratic interpretation of CT scans discussed in Part III(C)(2)(b), *supra* at pp. 22-26, however, Mr. Eskra points to no published literature that supports the notion that soft shorts can be identified through examination of fire-damaged battery cells after the fact. Ex. F at 279:24-280:15. For the same reasons set forth in Part III(C)(2)(b), Mr. Eskra’s defect opinions based upon the CT scans and his visual inspection of the remnants of the subject iPad are not reliable.

Simply put, Mr. Eskra’s defect opinion is mere speculation because he had no actual information upon which to base it. When an expert witness cannot lay a factual foundation for his findings or establish that they are based on “good grounds,” any opinions that he might offer are inadmissible. *See, e.g., Kuhar v. Petzl Co.*, No. 16-0395 (JBS/JS), 2018 U.S. Dist. LEXIS 205437, at *14 (D.N.J. Nov. 27, 2018) (“Expert testimony must be predicated upon evidence, and not speculation.”) (citations and quotation marks omitted). That is the exactly the case with Mr. Eskra’s defect opinions here.

3. Mr. Eskra’s testing of different iPad models is not substantially similar in fact or process to the facts of this case.

Unable to specify any proof of a defect in the subject iPad or the mechanism by which the alleged defect supposedly caused an internal short circuit, Mr. Eskra attempts to manufacture a basis for his opinions by conducting testing of two other iPad models. This “exemplar” testing is not substantially similar to the facts of this case, however, and thus is inadmissible.

Most fundamentally, Mr. Eskra performed his testing on two models of iPad devices not at issue in this case: the second-generation iPad (iPad 2) model released in 2011 and the seventh-generation iPad (iPad 7) model released in 2019. Ex. K at 16; Ex. H at 28, 38. . These “exemplars” are not the same model or the same age as the iPad Air 2 device at issue in this case, which was

purchased in 2016. Ex K at 16; Ex. P at 26:16-27:1. Mr. Eskra notes in his report that the iPad 7 device he tested was new in the box. Ex. K at 28. He does not specify whether the iPad 2 devices that he tested were new, used, refurbished, repaired, modified, or even if they contained their original batteries, and he admits that they were purchased on Ebay, not from an authorized Apple reseller. Ex. F at 302:12-13. Nor does Mr. Eskra make any attempt to show that these iPad models developed years apart have common characteristics relevant to the issues in this case. For example, while he “assumes” that the iPad 2, iPad 7, and iPad Air 2 have the same battery management system, he admits that he has no evidence to confirm that. *Id.* at 305:23-306:7. Similarly, the iPad 2 has three battery cells while the iPad Air 2 has only two cells. Ex. H at 3, 51. And the iPad 2 does not even use the same type of charger as the iPad Air 2. *Id.* at 53. Simply put, Mr. Eskra failed to make any showing that these disparate models of iPad devices share substantially similar characteristics that might render testing of the iPad 2 and iPad 7 devices relevant to opinions involving an iPad Air 2 device.

Beyond the significant differences between the “exemplar” devices and the subject iPad, Mr. Eskra’s testing also is not substantially similar to the facts of this case because the devices tested did not undergo the same usage as the subject iPad and were not in the same condition as the subject iPad on the day of the fire. *Id.*; Ex. F at 313:5-13; Ex. K at 17-18. Indeed, one of the iPad 2 devices purchased on Ebay was in storage *for 12 years*. Ex. F at 309:16-18. Similarly, the testing made no attempt to mimic the conditions of the fire at the Macaluso residence or the battery thermal event following a short circuit that Mr. Eskra theorizes occurred in the subject iPad. Ex. F at 312:22-313:4; Ex. H at 10, 38. Of course, Mr. Eskra’s failure to make even the most meager attempt to replicate the day-of condition of the subject iPad is unsurprising, given his admission

that he knows nothing about that device's history, including on the day of the fire. Ex. F at 155:22-25, 158:6-10.

Finally, Mr. Eskra's testing failed to replicate his alleged mode of failure. Ex. F at 310:16-312:25; Ex. H at 10. The testing involved artificial forced failure of the batteries in the iPad 2 and iPad 7 devices by hardwiring a workshop resistor directly to the battery cell. Ex. H at 28-55. That testing did not identify or document any soft shorts, internal cell damage, or failures of the battery cells as a result of forcing them to discharge to low states of charge. Ex. F at 310:16-312:21. Despite his intentional, artificial, and repeated over-discharge of the batteries of the iPad devices he tested, Mr. Eskra's testing did not result even once in a short circuit or a thermal runaway like the one that Mr. Eskra opines occurred in this case. *Id.* In other words, Mr. Eskra's testing failed to replicate the alleged failure mode or outcome that he hypothesizes for the subject iPad.

For expert testimony to meet the *Daubert* "fit" requirement, it must "help the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. Not only must an expert's opinions "fit" the facts of the case in which those opinions are offered, but so must any testing offered in support. *See, e.g., Meadows v. Anchor Longwall & Rebuild, Inc.*, 306 F. App'x 781, 790-91 (3d Cir. 2009) (excluding exemplar testing where hose assembly, pressure spikes, and valve placement were different from the facts of the case and where the results did not duplicate the alleged outcome at issue: "[g]iven the lack of resemblance Sokalski's tests have to the events in the mine, it is difficult to say how, if at all, these tests could assist the jury in determining what caused the accident") (alteration in original); *Cutter v. Ethicon, Inc.*, No. 5:19-443-DCR, 2020 U.S. Dist. LEXIS 74790, at *17 (E.D. Ky. Apr. 29, 2020) (excluding expert's opinions because his testing was not reliable); *Bado-Santana v. Ford Motor Co.*, 482 F. Supp. 2d 197, 202 (D.P.R. 2007) (excluding testing that was not substantially similar). Mr. Eskra's testing of different

products, under different circumstances, with different use histories, and subjected to a different failure mode that did not result in a battery thermal event does not “fit” for the purposes of Rule 702. Thus, Mr. Eskra’s opinions based upon his testing are not relevant and not admissible. *See Calhoun*, 350 F.3d at 321 (3d Cir. 2003) (“[T]he expert’s testimony must be relevant for the purposes of the case and must assist the trier of fact”) (quoting *Schneider*, 320 F.3d at 404).

IV. Conclusion

The opinions of Mr. Klitsch and Mr. Eskra are speculative, not based on sufficient facts or data, and are unreliable under Rule 702, *Daubert* and its progeny. Indeed, Plaintiff’s experts’ opinions are not based upon the facts or evidence of this case, but have been manufactured to fit a specific, pre-conceived outcome. The methodologies used to fit that outcome contradict the controlling principles of fire investigation and applicable peer-reviewed scientific literature. Under Rule 702 and *Daubert*, the opinions of Mr. Klitsch and Mr. Eskra are unreliable, irrelevant, and the Court should exclude each expert’s opinions in their entirety.

Dated: April 28, 2022

Respectfully submitted,

By: /s/ Basil A. DiSipio

Basil A. DiSipio, Esquire
PA ID No. 28212
Lavin, Cedrone, Graver, Boyd & DiSipio
190 N. Independence Mall West, Suite 500
Philadelphia, PA 19106
Email: bdisipio@lavin-law.com
Phone: (215) 627-0303
Fax: (215) 627-2551

Stephen M. Copenhaver, Esquire, *pro hac vice*
ArentFox Schiff LLP
1185 Avenue of the Americas, Suite 3000,
New York, NY 10036
Email: Steve.Copenhaver@afslaw.com
Phone: (312) 358-5648

Attorneys for Defendant Apple Inc.